

Advanced Architecture for Low-Power Applications



Overview

The new AMD Geode™ NX I500@6W processor* provides the highest x86 performance for fanless applications. The NX I500@6W processor is based on Mobile AMD Athlon™ technology to deliver superior computing power for a variety of applications, such as thin client, point-of-sale terminals, kiosks, high-end printers and home media systems.

AMD Geode™ Solutions have received new model numbers to better reflect total performance beyond just megahertz. This presentation of attributes gives designers greater understanding of the capabilities of AMD Geode Solutions.

Product Description

Based on AMD Athlon™ architecture, the AMD Geode NX I500@6W processor features advanced architecture, proven performance and excellent power management characteristics. It is compatible with Mobile AMD Athlon infrastructure components including chipsets, BIOS, drivers, and more. 384Kb cache memory and 266MHz Front Side Bus (FSB) speeds make the AMD Geode™ NX I500@6W processor an ideal solution for fanless applications where high performance and low-power consumption are important.

The AMD Geode NX I500@6W processor is supported by existing infrastructure, proven 7th-generation architecture and a long-term supply commitment.

Features Overview

- Low-Power Consumption
 - 6 Watt Typical Power at 1.0GHz
 - 9 Watt TDP at 1.0GHz
 - No fan required
 - Quiet operation
 - Lower-cost thermal design
- Advanced 1.0GHz core
 - High performance for demanding applications
- Long-term Manufacturing and Support
 - Design stability for long-life applications
- Compatible with existing Socket A infrastructure
 - Leverage PC components



- 128Kbyte L1 cache
- 256Kbyte L2 cache with hardware data prefetch
- Supports AMD PowerNow!™ technology enabling high performance and power saving modes
- Pipelined floating-point execution unit
- Support for MMX™, SSE, and 3DNow!™ professional instruction sets
- 266MHz FSB
- Advanced 0.13µm technology for higher frequency scaling and lower power consumption
- 453-pin Socket A compatible Organic PGA (OPGA) package
- OS Support
 - Microsoft® Windows® XP, XPe, WinCE
 - Linux

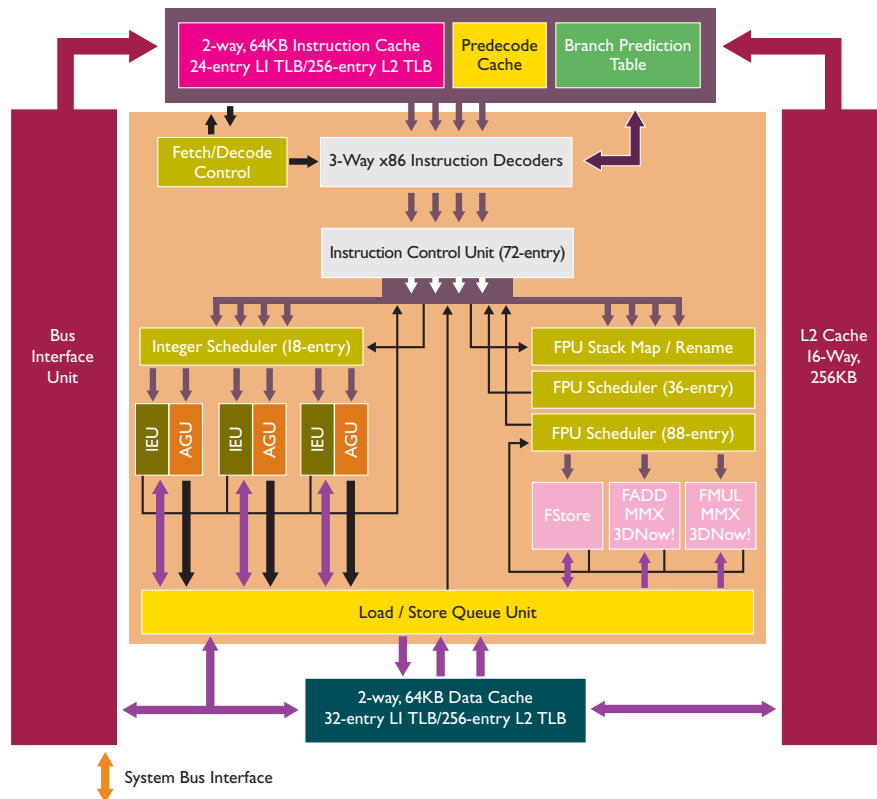
For enhanced power, the AMD Geode™ NX I750@14W processor is also available, delivering 1.4GHz at 14W typical power. The NX I750@14W processor features 128/256 L1/L2 cache, 266MHz FSB, Floating Point logic, and AMD PowerNow™ technology. The processor is socket, chipset BIOS and software compatible with the AMD Geode™ NX I500@6W processor.

*This processor operates at 1GHz. Model numbers reflect performance as described here:
<http://www.amd.com/connectivitysolutions/geodenxbenchmark>.

AMD Geode™ NX I500@6W Processor*

Processor Core Architecture

- 9-issue, superscalar, 32-bit micro architecture optimized for high-frequency operation
- 3 parallel x86 Instruction Decoders
- Dynamic scheduling with speculative out-of-order execution
- 2048-entry Branch Prediction Table and 12-entry Return Stack
- 3 superscalar, out-of-order integer pipelines each containing
 - Integer execution unit
 - Address generation unit
- 3 superscalar, out-of-order multimedia pipelines
- FADD, MMX ALU, 3DNow!™ technology
 - FMUL, MMX ALU (includes Mul and MAC), 3DNow! technology
 - FSTORE
- Level 1 64K-bit System Interface
- Multilevel TLB (24/256-entry I, 40/256-Entry D)
- 2 general purpose 64-bit load/store ports into D-cache
- High-speed 64-bit System Interface
- Deep internal buffering to support pipelines and external interfaces
 - Up to 72 x86 instructions in-flight
 - 32 outstanding load misses
 - 18-entry integer scheduler
 - 36-entry floating point scheduler
- 22 million transistors
- 85mm² die



Cache Architecture

- Level 1
 - 128k
 - 64k instruction, 64k data
 - Each 2-way associative
- Level 2
 - 256k
 - 16-way set associative
 - 64-bit L2 bus width

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About AMD

AMD (NYSE:AMD) designs and produces microprocessors, Flash memory devices and system-on-chip solutions for the computer, communications and consumer

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consumers. Founded in 1969, AMD is a Standard & Poor's 500 company with global operations and manufacturing facilities in the United States, Europe, Japan and Asia.

For more information, please visit: www.amd.com/connectivitysolutions/geodenx



www.amd.com

One AMD Place
P.O. Box 3453
Sunnyvale, CA 94088-3453, USA
Tel: 408-749-4000 or 800-538-8450
TWX: 910-339-9280
TELEX: 34-6306

Technical Support

USA & Canada: 800-222-9323 or 408-749-5703
USA & Canada PC Microprocessor:
408-749-3060
USA & Canada Email: hw.support@amd.com
Latin America:
Brazil: Tel: 0800-557686
Argentina: Tel: 0800-333-0219
Chile: Tel: 123-00-209-110
México: Tel: 01-800-123-4709
Soporte técnico: amdxsbrpo@vyr.com.br
Europe & UK: +44-0-1276-803299
Fax: +44-0-1276-803298
France: 0800-908-621
Germany: +49-089-450-53199
Italy: 800-877224
Europe Email: euro.tech@amd.com
Far East Fax: 852-2956-0588
Japan Fax: 81-3-3346-7848

Literature Ordering

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USA & Canada: 800-222-9323
Europe Email: euro.lit@amd.com
Far East Fax: 852-2956-0588
Japan Fax: 03-3346-9628

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